DOCUMENT RESUME

ED 244 166 CG 017 438

AUTHOR Christensen, David; Carp, Frances M.
TITLE Objective Measures of Residential Quality for Community Living Elderly.
PUB DATE 19 Nov 83
NOTE 22p.; Paper presented at the Annual Scientific Meeting of the Gerontological Society (36th, San Francisco, CA, November 17-22, 1983).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Environmental Influences; Females; Gerontology; Housing; *Measurement Techniques; Mental Health; Neighborhoods; *Older Adults; Participant Satisfaction; *Place of Residence; Predictor Variables; Psychological Needs; *Well Being

ABSTRACT

While published recommendations for housing design and neighborhood planning for older people continue to proliferate, these standards and criteria are rarely subjected to empirical testing. In this study, objective field assessments, using objective measures of residential quality, measured residential resources for meeting life maintenance and higher order environmental needs of 88 elderly women who lived alone in non-institutional settings in Oakland, California. The objective measures were developed and organized according to a system of life maintenance and higher order needs based on the work of Henry Murray (1938). Using resident satisfaction variables as criteria, multiple regression analyses produced six scales for assessing life maintenance resources, and twenty scales for higher order need resources. The objective environmental scales were found to provide significant predictors of general residential satisfaction. In multiple regression analyses, scales measuring resources in the living unit for meal preparation, health, and aesthetic needs explained 41 percent of the variance in general living unit satisfaction. Resources in the neighborhood related to harm/avoidance and order explained 27 percent of the variance in satisfaction with the local area. The potential value of the environmental scales is supported by significant correlations with several global measures of psychological well-being. Numerous tables presenting the study data are appended. (Author/JAC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED244166

OBJECTIVE MEASURES OF RESIDENTIAL QUALITY FOR COMMUNITY LIVING ELDERLY

by

David Christensen

and

Frances M. Carp

The Wright Institute
2728 Durant Avenue
Berkeley, CA 94704

Paper Presented at

The 36th Annual Scientific Meeting
of
The Gerontological Society of America

San Francisco

November 19, 1983

CG 017438

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.
Mir or changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
David Christensen

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ABSTRACT

OBJECTIVE MEASURES OF RESIDENTIAL QUALITY FOR COMMUNITY LIVING ELDERLY. D. Christensen & F.M. Carp. The Wright Institute, Berkeley, CA 94704.

While published recommendations for housing design and neighborhood planning for older people continue to proliferate, these standards and criteria are rarely subjected to empirical testing. In this study, objective field assessments measured residential resources for meeting life maintenance and higher order environmental needs of 88 community dwelling elderly. Using resident satisfaction variables as criteria, multiple regression analyses produced six scales for assessing life maintenance resources, and twenty scales for higher order need resources.

The objective environmental scales were found to provide significant predictors of general residential satisfaction. In multiple regression analyses, scales measuring resources in the living unit for meal preparation, health, and esthetic needs explain 41% of the variance in general living unit satisfaction; whereas resources in the neighborhood related to harmavoidance and order explain 27% of the variance in satisfaction with the local area. The potential value of the environmental scales is supported by significant correlations with several global measures of psychological well-being.

Introduction

We were interested in exploring the causal linkages between objective elements in the residential environment and their effects on the well-being of elderly women living alone in non-institutional settings. The question of how the environment may influence mental health and well-being has its roots in public health and epidemiological research beginning around the turn of the century; but it is only recently that comprehensive and testable quality-of-life models have appeared -- most notably those developed at the Institute for Social Research in Michigan by Andrews and Withey, and Campbell, Converse, and Rodgers.[1,2] According to these models, objective attributes in various life domains are perceived and evaluated in subjective fashion by the individual, and the combined effects of this process result in a general state of life satisfaction or psychological well-being.

In this study we focused on the residential environment in terms of objective characteristics of the living unit and of the neighborhood as determinants of the residential satisfaction and mental health of the study population.

In gerontology, Powell Lawton has been one of the most active theorists and investigators of environmental factors. The first author's introduction to gerontological research was as an interviewer for one of Dr. Lawton's studies of subsidized housing for the elderly. Therefore it was something of a disappointment to read results for that study, which indicated that housing and other environmental factors were rather poor predictors of outcome variables.[3] Only two environmental attributes (community size and building height) were statistically significant predictors of housing satisfaction after controlling for personal characteristics of respondents;

and the four environmental variables included in the analysis explained less than 5% of the variance in housing satisfaction. Further, no significant relationship was found betweeen environmental variables and the mental health criterion of morale. More recently Lawton has reported findings using environmental variables available from the Annual Housing Survey which indicate that objective housing characteristics explain 19% to 22% of the variance in housing satisfaction reported by the elderly; however, no mental health measures were available to serve as outcomes for these analyses.[4,5]

Data Base

The data for this analysis were collected for a sample of 88 older women who lived alone in non-institutional settings in the city of Oakland, California. Data collection was funded by NIMH (research grant MH/AG 32668) as part of a study designed to explore the issue of person-environment congruence among the elderly. That very interesting issue is addressed in other papers.[6,7] The relevant point here is that the larger study included development of objective measures of residential quality organized according to a system of life maintenance and higher order needs, based on the work of Henry Murray.[8]

The environmental data were collected by field observers using structured assessment instruments. Data collection inside the respondent's living unit required approximately one and a half hours. Additional observations were conducted in the yard area and street block, and a windshield survey recorded the location of selected land use elements and facilities up to a distance of 3/8 of a mile from the dwelling. When possible, measurements were performed using appropriate instruments, such as sound level meters for taking noise readings, light meters for recording illumination levels, and

tape measures and range finders for measuring the size of, and distance to relevant objects. When instrumental measurements were not practical, every effort was made to assure that the environmental assessments were defined clearly and recorded consistently.

Analytic Procedures

The development of environmental scales for the present analysis was conducted using a multiple regression technique in which Perceived Environmental Quality Indicators (or PEQIs) were used as dependent variables, following procedures discussed by Craik and Zube.[9] The PEQIs were derived from interviews in which respondents reported their levels of satisfaction and affect regarding various aspects of their residential settings. For example, Table 2 presents the items included in the environmental scale representing resources for meal preparation. These items were selected by a stepwise multiple regression analysis using a PEQI criterion measuring satisfaction with facilities for meal preparation as the dependent variable. Together the 10 environmental items account for about 35% of the variance in respondents' satisfaction with such facilities. Briefly, items cover: the volume of conveniently located storage and work space in the kitchen; water pressure, temperature, and faucet configuration; stove control features; availability of electrical sockets; and the degree of separation of the kitchen from other parts of the living unit.

Seven environmental scales were prepared in this way to measure resources for the life maintenance needs of meal preparation, sleeping/resting, personal hygiene, housecleaning, laundering, food shopping, and banking. Only a few items were available for the banking scale and they were not significantly related to the Perceived Environmental Quality Indicator for banking. Therefore

this scale was dropped.

In addition to resources for these life maintenance activities, environmental data were also collected related to six higher order or psychological needs: harmavoidance, noxavoidance, order, affiliation, esthetics, and privacy. For some of these needs, more specific issues were identified for scale development. For example, the issue of harmavoidance was subdivided into four areas of safety: crime, accident, fire, and health. Finally, separate environmental scales were prepared for resources in the living unit and outside in the local residential area or neighborhood. According to this scheme, a total of 22 environmental scales were prepared to measure resources for meeting higher order needs. In two cases (noise control in the living unit, and health resources in the local area) the environmental items failed to produce significant correlations with the PEQI criteria, and the scales were dropped. Tables 4 - 8 provide examples of environmental scales designed to measures resources for the higher order needs.

Several outcome variables are available in the data set. For this analysis, general residential satisfaction was assessed at the two levels of dwelling unit and local neighborhood area. Mental health or psychological well-being was assessed by five measures: The Campbell, Converse, and Rodgers Index of Well-Being, the Center for Epidemiological Studies CES-D Depression Scale, and the Bradburn Positive Affect, Negative Affect, and Affect Balance Scales. This multiple outcome strategy was pursued because we felt that more confidence could be placed in findings where environmental variables successfully predicted more than one outcome.

Results

The effectiveness of the environmental variables in predicting residential

satisfaction and psychological well-being is shown in Tables 9 - 11. In Table 9 no control variables were employed, and environmental variables were permitted to step into the multiple regression equation if they explained significant increments in outcome variance. Three environmental scales (representing resources for meal preparation, health, and esthetic factors) were found to account for 41% of the variance in general satisfaction with the living unit. Three other environmental scales (measuring resources for crime safety, accident safety, and orderliness) explain 27% of the variance in satisfaction with the neighborhood. Resources for meal preparation appear as a significant predictor of all five mental health measures and this variable, along with others, explain from 5% to 27% of the variance in psychological well-being.

The question remained whether these environmental variables would continue to make significant contributions to outcomes if personal characteristics of respondents were controlled. For example, Lawton's personal variables explained 2% of the variance in housing satisfaction and 8% of the variance in morale.[3] For the present analysis two types of personal control variables were available. First, we had measures of biological abilities and competence in the general areas of physical health and sensory, cognitive, and motor abilities. Second, we had information on such status resources as objective and perceived levels of income, education, ethnic status, etc.

As shown in the last two tables, inclusion of these personal control variables improved the prediction of some outcomes but not others and, except for the Index of Well-Being, the differences tend to be small. Except for the Depression and Positive Affect Scales, which are only weakly predicted in the absence of the personal control variables, the environmental variables maintained their significance when controls were included.

Conclusion

This research tends to confirm the importance of objectively measured environmental variables as predictors of subjective residential satisfaction among the elderly. Further, it offers new evidence that objective qualities of the residential environment can play important roles in shaping fundamental processes of psychological well-being for a potentially vulnerable segment of the older population.

References

1 Andrews, F.M. and S.B. Withey. Social indicators of well-being. New York: Plenum Press, 1976.

2 Campbell, A., P.E. Converse and W.L. Rodgers. The quality of American life. New York: Russell Sage Foundation, 1976.

3 Lawton, M.P., L. Nahemow and J. Teaff. Housing characteristics and the well-being of elderly tenants in Federally assisted housing. Journal of gerontology, vol. 30, no. 5, 1975, pp. 601-607.

4 Lawton, M.P. The housing problems of community-resident elderly. In R.P. Boynton (ed.), Occasional papers in housing and community affairs. Washington, D.C.: U.S. Dept. of Housing and Urban Development, Office of Policy Development and Research, 1978, pp. 39-74.

5 Lawton, M.P. Housing the elderly. Research on aging, vol. 2, no. 3, 1980, pp. 309-328.

6 Carp, F.M. A complementary/congruence model of well-being and mental health for the community elderly. In I.A. Altman, J.F. Wohlwill and M.P. Lawton (eds.), Human behavior and the environment: Curent theory and research. New York: Plenum Press, 1983.

7 Christensen, D. The residential environment and person/environment congruence for independent older women. Doctoral dissertation for the Dept. of Architecture, University of California, Berkeley, 1983.

8 Murray, H.A. Explorations in personality. New York: Oxford Press, 1938.

9 Craik, K.H. and E.H. Zube. Summary and research strategies. In K.H. Craik and E.H. Zube (eds.), Perceiving environmental quality. New York: Plenum Press, 1976, pp. 265-288.

Table 1

Characteristics of the Study Sample

Chronological Age:	
Range	60-92
Mean	76
Race:	
Caucasion	84%
Mexican-American	9%
Black	7%
Marital Status:	
Widowed	68%
Divorced	29%
Separated	3%
Employment:	
Never Employed	15%
Retired	43%
Unemployed	7%
Employed Part-Time	32%
Employed Full-Time	3%
Income in 1981:	
Mode	$6000
Mean	$8350
Housing Tenure:	
Owner	23%
Renter	77%
Subsidized Rental	57%
Sample Size (N)	88

Table 2

EPLUNUTR: Environmental Predictor for Meal Preparation

Item No.	Raw Wt.	Beta	Entry Order	Coding*	Description
B130	.133	.249	1	P	Volume of storage space below two ft. from the floor (cubic ft.)
B24	.499	.206	3	P	Presence/absence of adequate hot water pressure (at least ¼ cup per sec.)
B31	.084	.164	4	P	Number of electric sockets in kitchen area
N15	.431	.155	6	R	Presence/absence of kitchen/dining/living room combination
B25	.065	.147	7	R	Water temp. deviation from 110°F after 30 sec.
B76B	.134	.130	5	P	Presence/absence of 1.5 ft. counter space on both sides of kitchen sink
B4	.186	.120	2	P	Presence/absence of indicator lights for electric stove burners (if any)
B20	.100	.096	8	P	Presence/absence of lever type faucet handles in kitchen
B76A	.172	.092	9	P	Presence/absence of 1.5 ft. of counter space on at least one side of kitchen sink
B3	.087	.070	10	P	Presence/absence of stove controls at front

R^2 with PEQI	.354	Mean	4.306
Adjusted R^2	.271	Standard Dev.	.302
Signif. of F	.000	Constant	2.137

48 = N of items in original item pool

* P signifies positive coding, as indicated; R signifies coding is reversed.

Table 3

EPWASHDR: Environmental Predictor for Laundering

Item No.	Raw Wt.	Beta	Entry Order	Coding	Description
I510	.255	.343	1	P	Number of on-site dryers (if no private dryer)
L1110	.147	.164	2	P	Number of laundromats within ¼ mile of LU
I13	.346	.122	3	P	Presence/absence of shared clothesline
I530	.170	.051	4	R	Presence/absence of stairs from Living Unit to laundry facilities

R^2 with PEQI	.162	Mean	4.090
Adjusted R^2	.122	Standard Dev.	.388
Signif. of F	.005	Constant	3.063

14 = N of items in original item pool

Table 4

EPLUHLTH: Environmental Predictor for Health in the Living Unit

Item No.	Raw Wt.	Beta	Entry Order	Coding	Description
A130	.924	.254	1	R	Sink drain did/did not stop-up for 6+ hours during last 3 months
F49	.172	.228	2	P	Light meter reading in medicine cabinet (footcandles)
A113	.385	.214	3	R	Presence/absence of cockroaches within the last three months
D8	.274	.203	5	P	Presence/absence of thermostat to control heat in living room
F51	.100	.173	4	P	Volume of medicine cabinet (cubic ft.)
H20	.197	.147	6	P	Presence/absence of emergency call button in Living Unit
F50	.099	.130	7	R	Height of medicine cabinet from the floor
A112	.307	.084	8	R	Presence/absence of rats/mice within last three months
A132	.296	.067	9	R	Toilet has/has not been unoperable for 6+ hours during the last three months
F37	.126	.063	10	R	Presence/absence of pills/medicine visible in bathroom

R^2 with PEQI	.269	Mean	4.443
Adjusted R^2	.174	Standard Dev.	.344
Signif. of F	.005	Constant	1.554

27 = N of items in original item pool

Table 5

EPLUESTH: Environmental Predictor for Esthetics in the Living Unit

Item No.	Raw Wt.	Beta	Entry Order	Coding	Description
N2	.450	.284	2	P	Presence/absence of separate dining room
E47	.332	.237	1	P	Presence/absence of special/panoramic view from bedroom
B65	.273	.185	6	P	Presence/absence of special/panoramic view from kitchen
N15	.572	.159	3	R	Presence/absence of combined kitchen/ dining/living room
H37	.315	.153	7	R	Presence/absence of cracks/holes in walls/ceiling of Living Unit
H48	.424	.135	4	P	Functional TV in Living Unit
D89	.139	.132	8	P	Size of living room (sq. ft.)
C3	.184	.106	9	R	Presence/absence of view of bathroom from dining area
B19B	.146	.100	5	R	Presence/absence of any damage to kitchen sink
I20	.038	.076	10	P	Floor in building on which S's Living Unit is located

R^2 with PEQI	.323	Mean	3.792
Adjusted R^2	.235	Standard Dev.	.373
Signif. of F	.001	Constant	1.481

48 = N of items in original item pool

Table 6

EPLACRIM: Environmental Predictor for Crime Safety in the Local Area

Item No.	Raw Wt.	Beta	Entry Order	Coding	Description
J31	.908	.214	1	P	Presence/absence of light fixture at entrance to building
V3112	.158	.201	2	R	Decline in percentage tract population white (1970-1977)
L3	.160	.197	5	R	Distance from closest transit stop to street light
L1260	.355	.192	4	R	Presence/absence of public park within 3/8 mile
J27	.415	.142	7	P	Presence/absence of front gate to premises
J29	.798	.133	3	P	Presence/absence intercom at entrance to building
L183	.746	.126	6	R	Presence/absence of pinball/pool hall within 1/8 mile of LU
J22	.434	.113	9	R	Presence/absence of non-residential uses on premises
J24300	.473	.097	8	R	Presence/absence of abandoned housing in immediate vicinity
V3278	.141	.080	10	R	Presence/absence of homicide in tract (24 months, 1975-1976)

R^2 with PEQI	.235	Mean	3.224
Adjusted R^2	.136	Standard Dev.	.432
Signif. of F	.017	Constant	-.857

71 = N of items in original item pool

Table 7

EPLAACDT: Environmental Predictor for Accident Safety in the Local Area

Item No.	Raw Wt.	Beta	Entry Order	Coding	Description
K8900	.346	.274	5	R	Presence/absence of motorcycle traffic on S's street, peak hour (10 min.)
K26600	.304	.232	6	R	Presence/absence of truck traffic on nearest major street, peak hour (10 min.)
K23500	.277	.230	2	R	Presence/absence of buses on nearest major street, peak hour (10 min.)
J42	.593	.204	4	P	Presence/absence of visibility markings on steps to front entrance (if any)
J45	.225	.188	3	P	Presence/absence of exterior lights to illuminate steps at front entrance
J35	.282	.177	7	R	Presence/absence of cracked pavement in front path
K8700	.214	.168	8	R	Presence/absence of trucks on S's street, peak hour (10 min.)
J53	.055	.117	9	R	Degree of slope from sidewalk to front entrance
J269	.062	.100	10	R	Degree of slope along S's street (100 ft.)
K2000	.024	.039	1	R	Number of cars on S's street, off-peak, (10 min.)

R^2 with PEQI	.220	Mean	4.185
Adjusted R^2	.118	Standard Dev.	.282
Signif. of F	.029	Constant	2.881

67 = N of items in original item pool

Table 8

EPLAORDR: Environmental Predictor for Order in the Local Area

Item No.	Raw Wt.	Beta	Entry Order	Coding	Description
L281	.450	.280	1	R	Presence/absence of liquor store in 1/8 to ¼ mile zone
L292	.308	.215	2	R	Presence/absence of heavy commercial land use within 1/8 to ¼ mile zone
L105	.457	.148	3	R	Presence/absence of fast food restaurant within 1/8 mile of LU
J18300	.080	.140	4	R	Average presence of overgrown/unattended front yards in immediate vicinity
L181	.226	.104	5	R	Presence/absence liquor store within 1/8 mi.
V3133	.040	.069	7	R	Percent of units in tract vacant
J17300	.083	.056	6	R	Presence/absence of junk (greater than ½ ft. dia.) in front yards in immed. vicinity

R^2 with PEQI	.283	Mean	3.408
Adjusted R^2	.220	Standard Dev.	.383
Signif. of F	.000	Constant	2.003

34 = N of items in original item pool

Table 9

Significant Environmental Predictors of Outcome

	Residential Satisfaction		Psychological Well-Being				
	ESLUGENL	ESLAGENL	CCRWB	BRADPOS	BRADNEG	BRADABS	DEPRESSN
Environ. Pred.	EPLUNUTR	EPLACRIM	EPLUNUTR	EPLUNUTR	EPLUNUTR	EPLUNUTR	EPLUNUTR
Beta	.241**	.245*	.368***	.226*	.311**	.383***	.315**
Environ. Pred.	EPLUESTH	EPLAORDR	EPLUHLTH		EPWASHDR		
Beta	.360***	.246*	.282**		.242*		
Environ. Pred.	EPLUHLTH	EPLAACDT			EPLACRIM		
Beta	.275**	.217*			.218*		
R^2 with Outcome	.409	.270	.270	.051	.223	.147	.099
Adjusted R^2	.388	.244	.253	.040	.195	.137	.089
Signif. of F	.000	.000	.000	.034	.000	.000	.003

Signif. of Beta (two-tail test)

* p less than or equal .05
** p less than or equal .01
*** p less than or equal .001

Outcomes:
- ESLUGENL: General satisfaction with the living unit
- ESLAGENL: General satisfaction with the local area
- CCRWB: Campbell, Converse and Rodgers Index of Well-Being
- BRADPOS: Bradburn Positive Affect Scale
- BRADNEG: Bradburn Negative Affect Scale
- BRADABS: Bradburn Affect Balance Scale
- DEPRESSN: CES-D Depression Scale

Environ. Predictors:
- EPLUNUTR: Resources for meal preparation
- EPLUESTH: Esthetic resources in the living unit
- EPLUHLTH: Health resources in the living unit
- EPLACRIM: Crime safety resources in the local area
- EPLAORDR: Resources for order in the local area
- EPLAACDT: Accident safety in the local area
- EPWASHDR: Resources for laundering

Table 10

Personal and Environmental Predictors of Outcome
(r and Beta)

	Residential Satisfaction		Psychological Well-Being				
	ESLUGENL	ESLAGENL	CCRWB	BRADPOS	BRADNEG	BRADABS	DEPRESSN
Bio-Ability	BALUGENL	BALAGENL	BACCRWB	BABRADPO	BABRADNE	BABRADAB	BADEPRES
r	.129	.157	.453***	.317**	.271*	.374***	.360***
Beta	-.089	.022	.282**	.288*	.104	.263*	.268*
Status Resources	STATRESO	STATRESO	STATRESO	STATRESO	STATRESO	STATRESO	STATRESO
r	.312**	.207	.343***	.080	.146	.148	.218*
Beta	.106	.040	.096	-.069	-.047	-.030	.086
Environ. Pred.	EPLUNUTR	EPLACRIM	EPLUNUTR	EPLUNUTR	EPLUNUTR	EPLUNUTR	EPLUNUTR
r	.427***	.413***	.443***	.226*	.358***	.383***	.315**
Beta	.246*	.239*	.227*	.148	.284*	.281*	.185
Environ. Pred.	EPLUESTH	EPLAORDR	EPLUHLTH		EPWASHDR		
r	.514***	.395***	.379***		.244*		
Beta	.346***	.237*	.258**		.226*		
Environ. Pred.	EPLUHLTH	EPLAACDT			EPLACRIM		
r	.440***	.331**			.239*		
Beta	.268**	.207*			.223*		
R^2 with Outcome	.422	.272	.359	.119	.231	.201	.174
Adjusted R^2	.387	.228	.328	.088	.185	.173	.144
Signif. of F	.000	.000	.000	.013	.000	.000	.001

Signif. of r (one-tail test)

* p less than or equal .05
** p less than or equal .01
*** p less than or equal .001

Signif. of Beta (two-tail test)

* p less than or equal .05
** p less than or equal .01
*** p less than or equal .001

Outcomes:
- ESLUGENL: General satisfaction with the living unit
- ESLAGENL: General satisfaction with the local area
- CCRWB: Campbell, Converse and Rodgers Index of Well-Being
- BRADPOS: Bradburn Positive Affect Scale
- BRADNEG: Bradburn Negative Affect Scale
- BRADABS: Bradburn Affect Balance Scale
- DEPRESSN: CES-D Depression Scale

Bio-Abilities Pred.:
- BALUGENL: Physical health
- BALAGENL: Physical health
- BACCRWB: Physical health, near vision acuity, weight discrimination
- BABRADPO: Physical health, spatial cognition, rated hearing acuity
- BABRADNE: Physical health, near vision acuity
- BABRADAB: Physical health, rated hearing acuity, near vision acuity
- BADEPRES: Physical health, rated hearing acuity

Status Resources:
- STATRESO: Objective and perceived social and economic status

Environ. Predictors:
- EPLUNUTR: Resources for meal preparation
- EPLUESTH: Esthetic resources in the living unit
- EPLUHLTH: Health resources in the living unit
- EPLACRIM: Crime safety resources in the local area
- EPLAORDR: Resources for order in the local area
- EPLAACDT: Accident safety in the local area
- EPWASHDR: Resources for laundering

Table 11

Percentage of Variance in Outcomes Accounted for by Personal and Environmental Variables Entered in Hierarchical Order

Outcomes	Bio-Abilities	Status Resources	Environ. Predictors	Total Variance
General satisfaction with the living unit	1.7 (0.5)	8.1** (7.2)	32.4*** (31.0)	42.2 (38.7)
General satisfaction with the local area	2.5 (1.3)	2.7 (1.7)	22.0*** (19.8)	27.2 (22.8)
Campbell, Converse and Rodgers Index of Well-Being	20.5*** (19.6)	2.9 (2.0)	12.5*** (11.2)	35.9 (32.8)
Bradburn Positive Affect Scale	10.0** (9.0)	0.1 (-)	1.8 (-)	11.9 (8.8)
Bradburn Negative Affect Scale	7.4* (6.3)	0.4 (-)	15.4** (12.2)	23.1 (18.5)
Bradburn Affect Balance Scale	14.0*** (13.0)	0.1 (-)	6.1* (4.3)	20.1 (17.3)
CES-D Depression Scale	13.0*** (11.9)	1.7 (0.7)	2.7 (1.8)	17.4 (14.4)

Signif. of change in F (two-tail test)

* p less than or equal .05
** p less than or equal .01
*** p less than or equal .001

Adjusted percentage in parentheses